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BRICKELLIA SONORANA (ASTERACEAE), A NEW SPECIES FROM MÉXICO BELONGING TO THE SUBGENUS *PHANEROSTYLIS*

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ABSTRACT

A new annual species, **Brickellia sonorana** B. Turner, is described from Sonora, México. It belongs to the *Barroetea* complex of *Brickellia* and has been previously, but incorrectly, referred to as *Barroetea laziflora* [= *Brickellia laziflora* (T. Brandegee) B. Turner, the type from Puebla, México]. The Barroeteoid complex of *Brickellia* is composed of four closely related species: *B. sonorana, B. subuligera* (Schauer) B. Turner, *B. laziflora* and *B. pavonii* (A. Gray) B. Turner. A key to these taxa is presented and a map showing their distributions is provided.

KEY WORDS: *Brickellia, Barroetea*, Eupatorieae, Asteraceae, México

Preparation of a treatment of *Barroetea* for the Asteraceae of México has convinced me that this genus, phyletically speaking, belongs under the taxonomic fabric of *Brickellia* (cf. Turner, *et al.* 1991). In connection with this study it has proved necessary to describe the following novelty.

Brickellia sonorana B. Turner, *sp. nov.* TYPE: MÉXICO. Sonora: San Bernardo, Río Mayo, hill slope in short-tree forest, 21 Feb 1935, *Howard Scott Gentry 1326* (HOLOTYPE: TEX!; Isotypes: ARIZ!, LL!).

Brickelliae laziflorae (T. Brandegee) B. Turner similis sed capitulescentia laxa, pedunculis ultimis plerumque 2-6 cm longis (vs. 0.1-0.5 cm) differt.

Stiffly erect annual herbs 30-70 cm high, arising from rather small, shallow, tap roots. Stems terete, striate, densely puberulent to glabrate. Leaves opposite throughout, mostly 1.5-5.0 cm long, 1-3 cm wide; petioles 5-20 mm long; blades triangular to somewhat subcordate, trinervate from the base, sparsely to moderately puberulent, sparsely to densely glandular punctate beneath, the

margins serrate, ciliate, most of the serrations with callous, usually ciliate, appendages. Heads few to numerous, purplish, arranged in very lax leafy cymes or cymelike panicles, the ultimate peduncles mostly 2-5(7) cm long. Involucres mostly 8-10 mm high, the bracts 4-8 seriate, graduate, linear-lanceolate, 2-5 striate, puberulent to glabrous, the apices narrowly acute to apiculate. Receptacle plane, epaleate. Florets 15-21, the corollas tubular, purplish above, ca. 5 mm long, the lobes 5, ca. 0.5 mm long, usually with 1 or more sessile glandular hairs. Style branches with linear-oblanceolate purplish appendages which are essentially smooth at magnification of 20x. Achenes tangentially flattened, the abaxial surface with a single principal nerve, the adaxial surface with 3 principal nerves (lesser nerves sometimes intercalated between the principal nerves on the abaxial surface); pappus of 20-25 sparsely barbellate bristles 4-6 mm long.

ADDITIONAL SPECIMENS EXAMINED: MÉXICO. Sinaloa: Culiacán, 14 Nov (w/o year), *Brandegee s.n.* (UC); 23 mi N of Culiacán, 28 Jan 1964, *Flyr 110* (TEX); 4 mi S of turnoff to La Cruz on México highway 15, 29 Jan 1964, *Flyr 121* (TEX); Imala, 20 Nov 1939, *Gentry 5001* (ARIZ); Cerro Colorado, 4 Feb 1940, *Gentry 5485* (ARIZ); Cerro Tecomate, 29 Feb 1940, *Gentry 5765* (ARIZ); 59 mi N of Culiacán, 22 Dec 1971, *Norris, et al. 20113* (LL). Sonora: SW edge of Alamos, 22 Sep 1973, *Fish 134* (TEX); Canyon Sapopa, Río Mayo, 15 Oct 1934, *Gentry 1040* (F); Río Mayo, 21 Feb 1935, *Gentry 1326* (ARIZ); Alamos, 16 Oct 1936, *Gentry 2923* (ARIZ); Sierra Alamos, 3 Nov 1939, *Gentry 4864* (ARIZ); 109° 19′ x 28° 16′, 26 Mar 1983, *Sanders 3697* (ARIZ); Sierra Alamos, 30 Dec 1983, *Van Devender 83-119* (ARIZ, TEX).

This taxon was included within *Barroetea laxiflora* T. Brandegee by Robinson (1911) in his revision of *Barroetea*. That name, however, is typified by *Purpus 4128* (HOLOTYPE: UC!) from Coxcatlán, Puebla, a markedly different taxon with a lax capitulescence of *congested* heads and having cordate leaves with more numerous serrations. I have transferred this species and related taxa to *Brickellia* (Turner, *et al.* 1991).

A key to the Barroeteoid species of *Brickellia*, along with complete synonymy and a map showing distributions are presented below.

KEY TO SPECIES OF THE *BARROETEA* COMPLEX OF *BRICKELLIA*

1. Stems with glandular trichomes; denticulations of leaves not setose. .... *B. problematica*

1. Stems glabrous or puberulent, without glandular trichomes; denticulations of leaves setose. ..... (2)

2. Leaves sessile or nearly so. ..... *B. pavonii*

2. Leaves with petioles mostly 3-30 mm long. ..... (3)

3. Peduncles of individual heads mostly 2-6 cm long; Son, Sin. *B. sonorana*

3. Peduncles of individual heads mostly 0-2 cm long; widespread. ..... (4)

4. Achenes with 1-2(3) well developed ribs on adaxial faces; florets 15-27 per head; midstem leaves with petioles 1-3 cm long; se Pue, Oax. ..... *B. laxiflora*

4. Achenes without well developed ribs on adaxial faces; florets 30-50 per head; midstem leaves with petioles 0.5-1.0 cm long; widespread. ..... *B. subuligera*

Brickellia laxiflora (T. Brandegee) B. Turner, Phytologia 71(1):48. 1991. BASIONYM: *Barroetea laxiflora* T. Brandegee, Univ. Calif. Publ. Bot 4:93. 1910. TYPE: MÉXICO. Puebla: Coxcatlán, Sep 1909, *C.A. Purpus 4128* (HOLOTYPE: UC!).

Barroetea brevipes B.L. Robins., Proc. Amer. Acad. Arts 47:205. 1911. TYPE: MÉXICO. Oaxaca: Valley of Cd. Oaxaca, 5200-6800 ft, 2 Oct 1894 (HOLOTYPE: GH!; Isotype: US!).

As indicated in Fig. 1, this species is found in central Veracruz, southern Puebla and northern Oaxaca, mostly occurring from 500-1500 m, and flowering from October-November.

Robinson distinguished *Barroetea brevipes* from *B. laxiflora* by its reportedly subsessile heads arranged in rather laxly branched panicles, but branching patterns of the capitulescence in *B. laxiflora* is very variable, as evident from the ten or more collections of this taxon (LL, TEX) examined by the present author, most of these relatively recent collections.

Chromosome number, $2n = 18$.

Brickellia pavonii (A. Gray) B. Turner, Phytologia 71(1):48. 1991. BASIONYM: *Barroetea pavonii* A. Gray, Proc. Amer. Acad. Arts 17:206. 1882. TYPE: MÉXICO. w/o locality, 1787-1804, M-Pavon Herb., *Sesse, et al. s.n.* (numbered *1499* and labeled "*Eupatorium setigerum*;" Photoholotype: F!, TEX!). Gray also cited a collection in the Pavon herbarium annotated as "*Eupatorium cuspidatum*," which is numbered *4053* (photograph F!, TEX!). Both sheets bear plants with sessile leaves and clearly belong to the same taxon.

Brickellia pavonii is a commonly encountered weedy species, largely confined to tropical deciduous forests of southcentral México (Fig. 1), occurring from near sea level to about 2200 meters, flowering from October-November. Numerous collections are on deposit at LL and TEX.

Chromosome number, $2n = 18$ (*Sundberg 2971*, TEX).

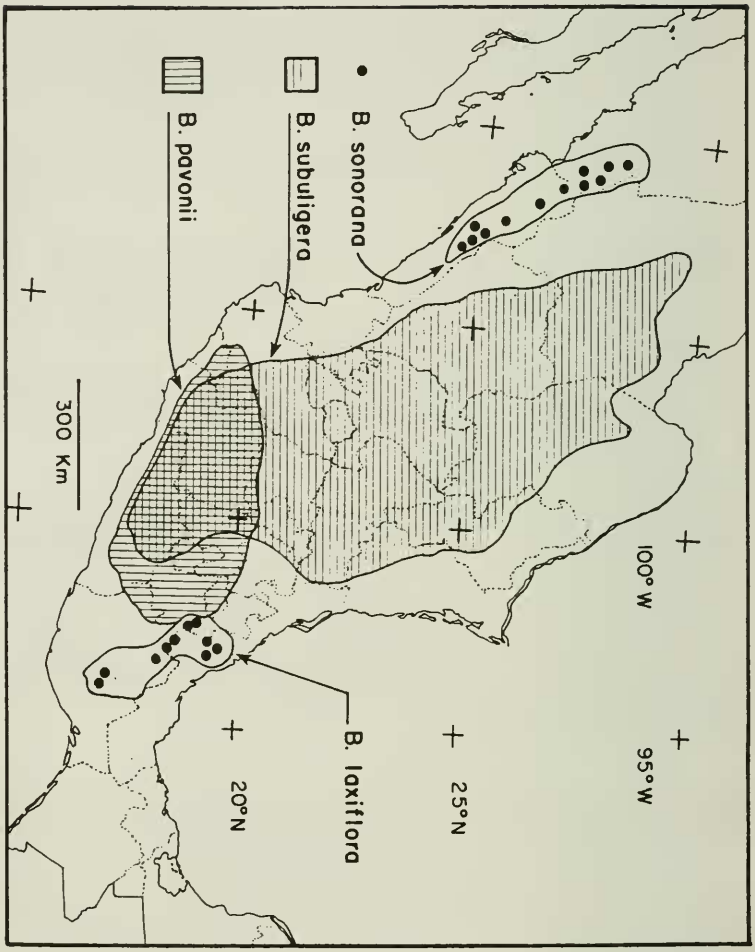

Figure 1. Distribution of the Barroeteoid species of *Brickellia*.

Brickellia problematica B. Turner, Phytologia 71(1):48. 1991. Based upon *Barroetea glutinosa* T. Brandegee, Zoe 5:262. 1908. Not *Brickellia glutinosa* A. Gray, Proc. Amer. Acad. Arts 21:385. 1886.

This species was originally described as *Barroetea glutinosa* and complete synonymy is given in Turner, *et al.* (1991).

Brickellia problematica is largely confined to southernmost Puebla (Fig. 1) and adjacent northern Oaxaca where it occurs in relatively xeric woodlands dominated by species of *Juniperus, Eysenhardtia, Montanoa, Croton, Agave*, etc., occurring mostly from 1800-2400 m; flowering from August to November. While originally thought to be rare, recent collections (seven or more) show the species to be locally common in the mountainous areas about Caltepec, Puebla and elsewhere in this region, depending upon rains.

Brickellia subuligera (S. Schauer) B. Turner, Phytologia 71(1):48. 1991. BASIONYM: *Bulbostylis subuligera* S. Schauer, Linnaea 19:718. 1847. *Barroetea subuligera* (S. Schauer) A. Gray, Proc. Amer. Acad. Arts 15:29. 1879. TYPE: MÉXICO. Hidalgo: Zimapan, w/o date, *Aschenborn 260* (HOLOTYPE: B, destroyed?; Isotype: P, according to McVaugh [1984]).

Barroetea setosa A. Gray, Proc. Amer. Acad. Arts 15:29. 1879. TYPE: MÉXICO. San Luis Potosí: mountains southeast of the city of San Luis Potosí, 1830-2440 m, Jan-Feb 1878, *Parry & Palmer 353* (HOLOTYPE: GH!).

Barroetea subuligera (S. Schauer) A. Gray var. *latisquamea* Greenm., Proc. Amer. Acad. Arts 40:35. 1904. TYPE: MÉXICO. Jalisco: hills above Etzatlán, 27 Oct 1903, *C.G. Pringle 8773* (HOLOTYPE: MO; Isotypes: LL-[2]!).

This is by far the most widespread variable species within the *Barroetea* complex, occurring mostly on the Central Plateau of México in dry deciduous forests from 500-2000 m; flowering from September-January.

Chromosome number, $2n = 18$ (*Barrie 1106*, TEX).

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NEW NAME FOR *SENECIO GESNERIFOLIUS* TURNER (SENECIONEAE, ASTERACEAE)

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ABSTRACT

Senecio mezquitalanus Turner is provided as a replacement for *S. gesnerifolius* B. Turner which is a later homonym of *S. gesnerifolius* Cuatrecasas.

KEY WORDS: *Senecio*, Senecioneae, Asteraceae, nomenclature

Senecio mezquitalanus B. Turner, *nom. nov.*, a new name for *S. gesnerifolius* B. Turner. BASIONYM: *Senecio gesnerifolius* B. Turner, Phytologia 62:75. 1987. Not *Senecio gesnerifolius* Cuatrecasas, Fieldiana Bot. 27:33. 1950.

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I am grateful to Dr. C. Jeffery of KEW for calling the above oversight to my attention. He also informs me that he intends to position the species concerned under the genus *Roldana* H. Robins. & Brett.